

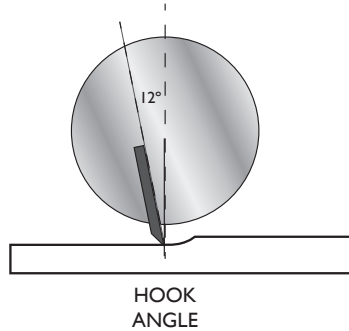
2X Best Practices and learnings: Moulding Equipment

Sweet spot of every moulder - Correlation between RPM of cutter head and feed rate of piece into machine

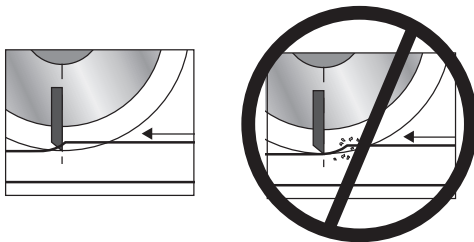
- On 1 1/2" sheet or boards at 12,000 RPM the optimal feed rate is 70 to 80 FPM.
- 8,000 RPM optimal feed rate 30 - 40 FPM.
- 6,000 RPM optimal feed rate 15 - 20 FPM.
- OEM must find this sweet spot for their machine.

Critical factors in processing 2X cellular PVC material through a moulder

Hook angle (the angle of the cutter as it sits in the cutter head) 12 degrees



- Steeper angles lessen tear out by reducing the lift of the cutter that occurs when angle is 20 degrees or more.
- Steeper angles allows less fines and chips to be collected between cutter and the material.
- Fines and chips will cause heat build-up, soften core and may lead to tear out.



NO CHIPS BETWEEN CUTTER AND SUBSTRATE

Good dust collection

- Must have very good removal of dust and chips to minimize heat build-up on substrate and tooling.

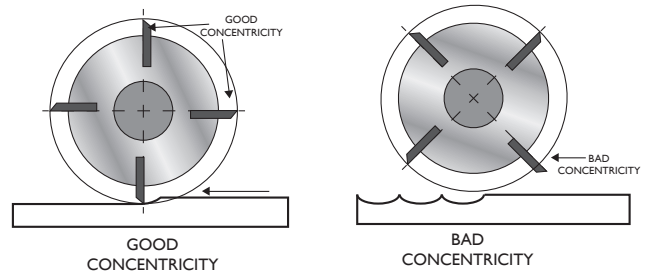
Cutter inserts must be sharp

- Dull blades increase heat build-up and will cause tear out.

Concentricity or positioning of the cutters within the cutter head

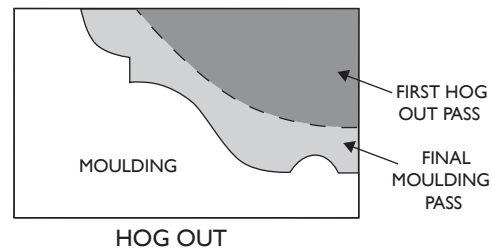
- The more concentric the cutters, the smoother and better the cut.

- Concentric alignment of each cutter enables each blade cutter to do work with each revolution.



Using Hog out technique (removing material prior to final moulder pass for profile desired)

- Use when trying to remove too much material in one pass.
- Profile requires deep penetration into the PVC substrate.
- Extra pass can assure a smoother cut, better surface quality and significantly reduce tear out.



Type of material for cutter blade construction

- Carbide tooling should be used for longer runs - 3,000 LF or greater.
- M-2 steel for smaller run quantities.
- Other steels will require sharpening every 750 to 1,000 LF.

Relief angle of cutter blade (angle at which end of blade is ground)

- OEM's have used 15 to 20 degrees.

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